

**ANATOMICALLY-CORRECTED-TESTBED (ACT)
FOR ANTHROPOMORPHIC MULTIFINGERED
ROBOTICS HAND**

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NOVEMBER 2010

Tarikh : 30 NOVEMBER 2010
No. Fail Projek : 02-01-01-SF0142

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LAPORAN AKHIR PENYELIDIKAN “ANATOMICALLY-CORRECTED-TESTBED (ACT) FOR ANTHROPOMORPHIC MULTIFINGERED ROBOTICS HAND”

Merujuk kepada perkara di atas, bersama-sama ini disertakan 2 (dua) naskah Laporan Akhir Penyelidikan bertajuk “Anatomically-Corrected-Testbed (Act) For Anthropomorphic Multifingered Robotics Hand”.

Sekian, terima kasih.

Yang benar,



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ABSTRACT

This research focuses on robotic hand providing fourteen degrees of freedom and sensors to trigger the joint movement. An object to be grasped by the hand is pushed by the palm frame assembly towards and into contact with the robotic fingers. An electrical signal is produced when each finger contacts the object.

This report is based on functional movement of robotic human hand which has been designed and technically capable of handling complex objects. The device mechanism enabling this movement consists of micro servo-motor, pulley system and belt. These motors and belts are provided to each joint in the finger, rotating each joint and thereby bending and extending the finger.

To show the kinematic movement of the developed hand, three methods of control system are integrated. They are the GUI interface with programming, a manually controlled and autonomous movement provided by micro-controller of this robotic hand. The model has been fabricated using a rapid prototype machine to simulate the movement of robotic hand.

This research is preliminary before proceeding to design a full robot system which can operate and program to do human work or to do a risky job.

Keywords:

Robotic hand, degrees of freedom, mechanism, GUI